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ABSTRACT

The economic crisis and the resulting financial squeeze of the 1980s led to reduced public funding support to education. The changing political view that continuation of public subsidies will reduce growth potentials of economies favored a market-friendly approach to development of education. The rate-of-return analysis gave currency to an argument that there was under-investment in primary education, and it provided a rationale to divert resources from higher to primary levels of education. The introduction of structural adjustment programs justified further reduction in public subsidies to higher education in many countries. The reform measures adopted by governments and institutions to overcome financial constraints included efficiency enhancing and cost-saving interventions, diversification or cost-sharing measures, income-generating activities, and privatization policies. The paper closely scrutinizes institutional capacity to initiate and sustain income-generating activities in the long run. The paper makes the case that, in the ultimate analysis, entrepreneurial universities become a desirable arrangement when the income generated by them far exceeds what could have otherwise been available from the public sources. The expectation is that recent initiatives to mobilize resources by the universities will lead to a better balance in sharing resources between public and private sources, and the sector will receive increased support from both public and private sources of funding. (Contains 21 references.) (Author/SLD)

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IIEP Contributions

No. 34

THE LIMITS TO DIVERSIFICATION OF SOURCES OF FUNDING IN HIGHER EDUCATION

N. V. Varghese

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The limits to diversification of sources of funding in higher education

N.V. Varghese

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The limits to diversification of sources of funding in higher education

N.V. Varghese

Abstract

The economic crisis and the resulting financial squeeze of the 1980s led to reduced public funding support to education. The changing political view that continuation of public subsidies will reduce growth potentials of economies favoured a market-friendly approach to development of education. The rate-of-return analysis gave currency to an argument of under-investment in primary education and it provided a rationale to divert resources from higher to primary levels of education. The introduction of structural adjustment programmes justified further reduction in public subsidies to higher education in many countries. The reform measures adopted by governments and institutions to overcome financial constraints included efficiency enhancing and cost-saving interventions, diversification or cost-sharing measures, income-generating activities and privatization policies. The paper closely scrutinizes institutional capacity to initiate and sustain income-generating activities in the long run. The paper argues that, in the ultimate analysis, entrepreneurial universities become a desirable arrangement when the income generated by them far exceeds what could have otherwise been available from the public sources. The expectation is that the recent initiatives to mobilize resources by the universities will lead to a better balance in sharing of resources between public and private sources and the sector will receive increased support from both public and private sources of funding.

1. Introduction

Public funding of education is a political issue and therefore the changing political ideology and outlook affect the efficacy of the state to fund higher education. The manpower requirements of newly independent nations in their quest for self-reliance released enough public resources to fund higher education in the developing world. The equity considerations and development concerns justified continued state support to institutions of higher education in the developed world, even during the massification phase (Neave, 2000). The era of state-sponsored expansion of higher education came to an end with the ascendancy of a market-friendly development paradigm which believed that the fiscal and monetary policies necessary to sustain a high level of public subsidy have a damaging effect on growth of national income (Williams, 1992). By questioning the wisdom of investing limited public resources in social-sector programmes, it created a political environment strong enough to effect downsizing of public funds to education. The rate-of-returns analysis and the structural adjustment programmes further encouraged policies to divert resources from higher to primary levels of education. Entrepreneurial universities (Clark, 1998) emerged to compensate for the financial losses suffered by the sector due to withdrawal of the state funding. This paper is an effort to analyze the extent of substitution possibilities existing between public funding and market financing of higher education.

2. Did public funds decline?

The discourses on higher education unquestionably accept the phenomenon of declining public support to higher education as a universal truth. However, very little is discussed on the very nature of the financial squeeze felt in the sector. Information on the share of higher education budgets to total education budget is available for two points of time (1985 and 1995) for nearly 84 countries (UNESCO, 1998). An analysis of this set of data shows that there were no major changes in the share of higher education to total educational expenditure in four countries; the share has gone up in 48 countries and there is a decline in the share in 32 countries. *Table 1* provides information on the share of higher education to total education budgets in selected countries. The surprising trend is that the share of higher education in education budgets increased in most of the developed countries and it declined in many of the developing countries. There are extreme examples of the share doubling in the developed world and halving in the developing world. For example, between 1985 and 1995 the share of higher education to total educational expenditure more than doubled in Norway and it almost halved in the case of Nepal. Therefore, it is not always factually correct to argue that the share of higher education in the education budgets declined.

Table 1. Higher education expenditure as a share of education budget

Country	1985	1995	Country	1985	1995
Australia	30.5	29.8	Bangladesh	10.4	7.9
Austria	16.6	21.4	Burundi	19.8	15.6
Belgium	16.7	20.3	Chile	20.3	18.1
Canada	28.7	34.7	China	21.8	15.4
Finland	18.7	28.8	Colombia	21.2	18.5

France	12.9	17.0	Congo, Rep. of	34.4	28.0
Ireland	17.7	22.6	India	15.3	13.7
Italy	10.2	15.0	Malawi	23.3	20.5
Netherlands	26.6	29.9	Nepal	33.4	17.3
Norway	13.5	27.1	Pakistan	18.2	13.2
Sweden	13.1	27.7	UK	19.8	23.7
Switzerland	18.1	19.7	USA	25.1	25.2

Source: UNESCO (1998) and World Bank (2000).

Does it imply that there was no decline in resources available to higher education? Unfortunately, this too is not true. The education budgets in general became relatively small in many countries. For example, among 74 countries, for which information is available, 33 countries indicated a declining share of the budget allocated to education; the share increased in the case of 29 countries and it was maintained almost at the same level in 12 countries. Most of the countries which experienced a decline in the share of education in the overall budgetary allocation were from the developed world.

The trends in resource flows to higher education can be generalized as follows. The share of education budget in the developed countries declined. But the higher share of allocations (of the reduced budgets) was maintained for the higher education sector. The share of education budgets improved in many developing countries; but the share of allocations to higher education declined in many cases. It seems that the structural adjustment programmes, while helping to maintain the share of education budgets was also instrumental in diverting resources from higher to primary levels of education.

In other words, the changes in intersectoral allocations were responsible for reduced allocations, if any, to higher education in the developed world, and changes in intrasectoral allocations were mainly responsible for a decline in resources, if any, for higher education in the developing world.

The absolute amount of resources allocated to higher education did not decline in most of the countries. Some countries adopted a policy of freezing the amount or share at certain levels and, consequently, the resource availability in real terms declined. Many developed countries were experiencing favourable economic growth during the 1990s and hence there is every reason to believe that the amount of public resources allocated in the 1990s were not less than what they used to be in the 1980s. However, the rate of growth of public resources for higher education did decline in almost all countries. More importantly, the allocations could not keep pace with the expansion requirements of the system. Examples of negative growth rates in expenditure on education too are not very common.

Based on these trends, it is plausible to argue that progressive withdrawal of public funding of education was more common in the developed world, whereas a withdrawal of state funding of higher education was more common in the developing world. The external funding support, which helped many developing countries to maintain their share of educational expenditure, went to primary education. Surprisingly, the higher education system in general continued to expand and the public funds were insufficient to accommodate the continued and increasing social demand for higher education. Consequently, per-student expenditure declined in all countries *(Table 2)*.

The declining per-student expenditure, even when the growth rate of educational expenditure was positive, indicates the continuing demand for higher education. Needless to add, even when net addition to enrolment declined in the developing world during this period, the decline in per-student expenditure was also sharper in the developing world, indicating that a reduction in public funding created more adverse impact in the developing world than in the developed world.

The developing countries had to reduce expenditure on higher education partly due to their dependence on external funding and partly due to the fact that higher education in developing countries is relatively more expensive than that in developed countries. Thus maintaining a high level of subsidies is not benefiting the poorer sections of society. The per-student expenditure on higher

education in developing countries far exceeds their per-capita income. For example, the average unit cost of higher education in developing countries represents 370 per cent of the per-capita income, whereas it represents only 49 per cent of the per-capita income in industrialized countries (Salmi, 1991). In 1995, sub-Saharan Africa had the highest per-student expenditure (as a ratio of GNP per capita) and it was more than 16 times higher than the corresponding figure for high-income countries.

Table 2. Per-student expenditure on higher education
Per-student/GNP per capita (%)

	1980	1995
World average	163	77
Low and middle income	259	91
Sub-Saharan Africa	802	422
East Asia and the Pacific	149	76
South Asia	143	74
Europe and Central Asia	67	36
Latin America and the Caribbean	19	43
Middle East and Africa	194	82
High income	39	26

Note: The column on 1995 relates to the latest year for which data are available.
Source: UNESCO (1998).

This section indicates that resource availability was short of requirements for an expanding sector and, hence, many countries felt the financial crunch. The financial squeeze was experienced to different degrees at the institutional level, some institutions felt it more than others. Equally important is the fact that the capacity of institutions to mobilize their own resources also varied considerably. Some fared well while others did not.

3. Diversification of the sources of funding

How did the countries respond to the relatively reduced resource availability? An analysis indicates that the responses, in general, included changing resource allocation policies, reorganizing and merger policies, redeployment of personnel, early retirement policies, suspension of capital expenditures, programme closures, shifting the burden to direct beneficiaries, income-generating activities like service and entrepreneurial activities etc. (Clark, 1998; Davies, 1997; Rhoades, 1995; Sanyal, 1995; Sanyal and Martin, 1998; Slaughter, 1995; Varghese, 1991). These responses can generally be categorized into reforms focusing on: (i) managerial efficiency in allocation and utilization of existing resources; (ii) cost recovery or cost-sharing policies; (iii) privatization policies; and (iv) income-generating activities.

Resource allocation, very often, is a process of political negotiations or a bureaucratic exercise. Due to financial constraints many countries have moved towards more transparent resource allocation practices where performance and accountability assessments based on certain objective indicators enjoy a premium. The allocations and assessments are now based more on objective indicators of inputs or outcomes. Input-based funding very often involves a formula that combines enrolment figures and unit costs and uses coefficients and weights to provide incentives for internal distribution of resources. Output-based funding mechanisms rely on performance and effectiveness. Performance indicators became very popular in many OECD countries during this period. In some countries, a lump-sum budget is given to the universities based on a set of criteria, mostly based on performance indicators. Tunisia introduced a new system of resource allocation called *Système d'analyse et gestion de l'enseignement superieur – SAGES,* which uses a set of indicators for rationalization of resource allocation. Improving managerial efficiency also included cost-reduction measures such as changing academic and administrative staff ratios; changing pupil/teacher ratios or increasing class size, especially in humanities, or increasing contact hours etc.

The cost-sharing or cost-recovery measures included increasing tuitions, introducing student loans (Woodhall, 1991, 1993; World Bank, 1994; Johnstone, 1998). Egypt has introduced a system of mobilizing resources by providing admissions to less qualified candidates and charging them very high rates of fees. India introduced capitation fee colleges. Jordan collects a university tax on each sale affected in the country to reduce direct government subsidy to higher education. Growing numbers of developing countries are moving in the direction of cost-sharing. For example, income from student fees is 22 per cent of the recurrent expenditure in Viet Nam, 36 per cent in Chile, 40 per cent in Jordan, 46 per cent in Korea (World Bank, 1994).

Student loans are increasingly being introduced in many countries. Venezuela, Jamaica, Mexico, Hungary, and China are some of the countries which have introduced student loans in the recent past (Johnstone, 1998). However, loan recovery seems to be a formidable task in many countries where the system has been in operation for a fairly long period. For example, in Kenya more than 60,000 university graduates owe around US $11 million as unpaid university loans. The greatest defaulters are lawyers, magistrates and judges, Ministry members and Parliament members (*Times Higher Education Supplement*, 8.10.1999). The debt due to unpaid student loans is around US $1.5 billion in New Zealand (*Times Higher Education Supplement,* 12.11.1999). Due to poor student loan recovery, the Nigerian Government signed a decree in 1993 to establish a Nigerian Educational Bank with educational lending and recovery as one of its main objectives (Chuta, 1988). Sweden is one of the few examples where loan recovery has not yet created many problems.

Establishment of private universities is yet another response to declining public funding support for higher education. Private universities are preferred in some countries for reasons of better quality of education and, in other countries, to meet the excess demand for higher education. Many countries have changed rules and regulations to encourage opening of private universities. In some of the developing countries the growth of private universities is astonishing. The on-line and distance modes of delivery mechanism have helped

the growth of private universities and private studies. At present the private sector accounts for a respectable share of enrolment in higher education in many countries. Private universities very often offer more of the market-friendly courses, which ensures a sustained demand for their courses even when they are expensive.

Income-generating activities include mainly income from overseas students and various entrepreneurial activities initiated by the universities. The United Kingdom is a classic example of utilizing the overseas student market to generate income for the universities. Until the 1980s education of overseas students in the United Kingdom was highly subsidized. In the 1980s the government decided to charge the overseas students full fees. In the UK many universities depended on this market for around 12-16 per cent of their income (Williams, 1992). The Makerere University of Uganda, during the 1990s, introduced evening classes, started bookshop and bakery services and established a consultancy bureau. These efforts have helped the university to generate more income, reduce the exodus of academic staff and reduce dependence on public funds (World Bank, 2000). The university enterprise collaboration (service universities and entrepreneurial universities) is considered a very reliable source for mobilizing a substantial share of the income needed by the higher education system. Some of the case studies have indicated that many universities mobilize an amount of income equal to the public support they receive. It is interesting to analyze the extent of substitution possible between income generated from these sources and that from public sources.

4. Can entrepreneurial activities replace public funding?

Many universities have initiated university enterprise collaborations (Martin, 2000). It is very often argued that many universities could mobilize a sizeable amount of money from such collaborative ventures. However, the available sources of information do not support such claims. They still provide a small share of the total income for higher education even in the developed countries *(Table 3)*. The private-sector funding of research in public universities stands at 5 per cent in OECD countries (OECD, 1998). However, where universities have introduced various forms of entrepreneurial activities, they are found to be more successful. Now let us look more closely into the experiences of some of the successful institutions in this field. The example and data used for all calculations in this section are taken from Clark (1998).

Table 3. Share of R&D in higher education funded by enterprises

	1980	1990	1995		1980	1990	1995
USA	2.5	4.7	5.8	France	1.3	4.9	3.2
Canada	3.9	6.3	10.7	Germany	2.0	7.8	7.5
Japan	1.0	2.3	2.4	Sweden	2.3	5.2	6.2
Australia	1.4	2.1	3.5	UK	2.8	7.6	6.2

Source: OECD, 1998.

Table 4. Trends in resource mobilization by universities
Growth rates

Warwick	Public	Private	Total	Share of public	Projected Million	Actual/ Projected
1975-1980	23.4	22.3	23.1	70.0	14.6	100.0
1980-1985	08.0	18.3	11.6	60.0	41.8	86.4
1985-1990	10.8	26.1	18.0	43.0	119.5	69.0
1990-1995	07.3	10.8	10.2	38.0	342.0	39.2
Twente						
1975-1980	08.5	-ve	08.0	96.0	134.4	100.0
1980-1985	03.0	38.2	05.5	85.0	210.2	87.1
1985-1990	02.6	18.4	05.6	74.0	316.1	76.1
1990-1995	05.7	03.1	05.5	76.0	475.2	64.7
Strathclyde						
1975-1980	13.5	33.5	18.7	64.0	15.6	100.0
1980-1985	09.8	13.7	11.3	59.0	29.4	142.2
1985-1990	09.0	19.6	13.7	48.0	55.3	143.9
1990-1995	09.3	12.0	10.7	45.0	104.2	127.4
Joensuu						
1980-1985	20.7	28.2	21.0	94.0	72.5	100.0
1985-1990	04.0	53.4	10.4	70.0	185.7	68.3
1990-1995	11.9	14.9	13.1	66.0	475.8	49.2
Chalmers						
1980-1985	07.2	14.8	10.0	59.0	532.0	100.0
1985-1990	14.4	15.8	15.0	58.0	753.0	142.0
1990-1995	05.1	07.4	6.1	55.0	1066.0	134.8

Source: Estimated based on tables from Clark (1998); the figures given in column 6 are in millions and in the currency of respective countries.

Table 4 indicates the changes in the sources of funding as a result of the universities in the UK, Finland, Sweden and the Netherlands becoming more and more entrepreneurial. The major share of resources for these five universities came from public sources until the 1980s, when they started moving towards entrepreneurial activities. In Finland and the Netherlands almost the entire funding for these universities used to come from government sources. Over a period of time the British universities became more independent and successful than others in mobilizing a major share of their resources from non-governmental sources, primarily through entrepreneurial activities. The universities in other countries, even after mobilizing a substantial amount of money, continue to depend on the state for a major share of their resources.

The initial period of entrepreneurial activities showed a high rate of growth of income from the new sources. This was partly due to the low base of the private sources to start with. The rate of growth of income from private sources declined in the successive periods and after a decade the growth rates are close to that of the public sources of income. In other words, the table indicates that it is not always easy to maintain the momentum generated during initial stages of the programme.

Are these institutions better off with the changes in the source of income through entrepreneurial activities? In an effort to assess the extent of substitution possibility between the sources of income, the income from public sources was projected based on the assumption that income from public sources continued to increase at the rate at which it was growing during the five-year period before the commencement of the entrepreneurial activity. The results are shown in the last two columns of *Table 4*. Three out of five cases showed that although they could mobilize a substantial amount of resources, state funding, if continued at the same level, would have been more beneficial to them. For example, Warwick University now operates with 39 per cent of the resources available had the state funding been continued at the same level. Joensuu University in Finland now operates with 49 per cent of the projected income and Twente University with its 64 per cent of the income if the public funding had not reduced. Although these universities have shown good initiatives, the

change in the strategy has not helped them to improve their financial position. A close look at the data indicates the fact that reduced public funding has adversely affected these universities despite their successful resource mobilization efforts. In other words, the entrepreneurial activities have helped them to arrest the further decline in the level of activities of the university; but they were not sufficient to usher in an era of growth and prosperity for the universities.

The other two institutions (Chalmers Trust and Strathclyde) have benefited from moving away from state funding. The income from entrepreneurial activities has not only compensated for the reduced state funding, but has also meant that more resources were made available to the institution due to their initiatives. These two institutions had a tradition of good support from non-governmental sources to start with. More than one third of the resources in Strathclyde and two fifths of the funds in Chalmers were already accounted for by the private sources. The new initiatives have only contributed 19 percentage points of additional resources in the first case and 5 per cent in the latter case. On the whole, Chalmers could mobilize at least one third more resources than it could have received if the state had continued its support at the same level. The gain in the case of Strathclyde is at least one fourth more of income than the state could have provided. The conclusion may be that those institutions which have a tradition of support from private sources have a higher probability to better their chances by moving away from state funding, while those institutions which are now starting entrepreneurial activities may not be better placed in the immediate future if they move away from public support. These examples clearly illustrate the feasibility and limitations of this approach as an alternative to state funding.

5. Concluding observations

If one applies market principles to guide state action, the state is justified in reducing funding support to higher education. The growing public-sector industries, commerce and administration required the state to support and expand the base of higher education (Gilbert, 1993). The state owned its own subsidized provisions during this period. Today the state is no more the major consumer of educated manpower. An application of the same principles demands that the state should withdraw its subsidies and now it is the turn of the beneficiaries (enterprises) to pay for educating manpower for their use.

A closer look at the universities/departments mobilizing resources through entrepreneurial activities indicates that they are not the sectors which perform traditional functions of the universities. The advent of entrepreneurial universities may imply growth of certain activities and disciplines at the expense of others. The emergence of service functions creates disequilibria between disciplines and at times it threatens the faculty. The professorate stands at the crossroads of an uncertain future. The academic staff in social sciences and humanities have more to fear than their colleagues in business management and computing sciences.

Unfortunately the role of the state is not confined to funding. There are other roles centring on appropriate balance between social demand, governmental regulation and social equity. Hence the laws of the market and the logic of competition cannot be applied to education, including higher education. "The current worldwide trend towards a reduction in the role of the state in the economic field cannot be automatically extended to the field of education and cannot justify direct or indirect pressure for cuts in public expenditure on higher education" (UNESCO, 1998). "Markets require profits and this can crowd out important educational duties and opportunities" (World Bank, 2000, p. 15).

The recent trends in income generation through entrepreneurial universities indicate the capacity of the institutions to mobilize resources, on the one hand, and limits to such efforts on the other. Efforts made in the future need not be

to substitute funds from one source by another but to increase total resources available to higher education. Redefining the resource-sharing responsibilities between the state and the non-governmental sectors can do this. A partnership based more on this shared view should shape future funding arrangements for higher education.

To conclude, the close of the century witnessed a growing economy that depends on technology-based production and knowledge-based industries. Even the countries that lead this revolution do not have an adequate number of higher-educated people to maintain their leading position. This is the case with the USA, Germany, Japan, Sweden, etc. The USA requires around 1.4 million core information technology workers in the 10 years ending in 2006 to maintain its lead as the world's most competitive economy. A recent estimate indicates that there will be 350,000 unfilled technology jobs in Germany in the next two years (International Herald Tribune, 21.03.2000). There is certainly a need for continued support to expand higher education. The expectation is that the public authorities in these and other countries will come forward to support higher education, since national progress is now constrained by limited expansion of higher education. Similarly, the market will soon find that its expansion capacity and profitability are not only limited by poor availability of educated people as workers, but also as consumers of the knowledge-based products. Hence markets too will find it rewarding to invest in higher education. A brighter future for higher education lies in developing a mutually beneficial and socially responsible relationship between the market forces and state interventions.

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Debates on the financing of higher education assume that there has been a decline in public funding to the sector from the mid-1980s onwards. Closer scrutiny of national data indicates, however, that this is not always the case. In fact, the share of public budgets to higher education actually increased in many countries of the developed world, whereas in many developing countries it declined. Despite varying problems, most countries faced a financial squeeze in this sector, due mainly to the rapid expansion of student numbers in the developed world and to declining public budget share in developing countries. Universities in many countries tried to cope with this situation by drifting away from their reliance on public funding alone and turning towards other sources. Some universities and selected departments succeeded in mobilizing resources from new sources. Did the diversification of sources of funding increase the overall resource availability of universities?

This paper illustrates that institution-based resource mobilization did succeed in many cases in substituting public funding rather than improving the overall resource base for institutions and for the sector as a whole. Therefore, future efforts need not be directed to replacing funds from one source by another, but to augmenting total resources available to higher education.

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